

Yves Wouters

List of Publications by Year in descending order

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140
times ranked

1141
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal oxidation kinetics and oxide scale adhesion of Fe-15Cr alloys as a function of their silicon content. <i>Acta Materialia</i> , 2006, 54, 3917-3922.	3.8	102
2	The Kinetic Behaviour of Metals in Water Vapour at High Temperatures: Can General Rules Be Proposed?. <i>Materials Science Forum</i> , 2001, 369-372, 231-238.	0.3	88
3	Adhesion of oxide scales grown on ferritic stainless steels in solid oxide fuel cells temperature and atmosphere conditions. <i>Journal of Power Sources</i> , 2007, 171, 688-695.	4.0	75
4	Thermal oxidation of titanium by water vapour. <i>Solid State Ionics</i> , 1997, 104, 89-96.	1.3	65
5	Photoelectrochemical study of nickel base alloys oxide films formed at high temperature and high pressure water. <i>Electrochimica Acta</i> , 2010, 55, 5384-5392.	2.6	61
6	Extensive analysis of resistance evolution due to electromigration induced degradation. <i>Journal of Applied Physics</i> , 2008, 104, .	1.1	56
7	Identification by photoelectrochemistry of oxide phases grown during the initial stages of thermal oxidation of AISI 441 ferritic stainless steel in air or in water vapour. <i>Corrosion Science</i> , 2009, 51, 562-568.	3.0	55
8	Temperature dependence of metastable alumina formation during thermal oxidation of FeCrAl foils. <i>Materials and Corrosion - Werkstoffe Und Korrosion</i> , 2005, 56, 389-392.	0.8	53
9	Characterization of Chromia Scales Grown on Pure Chromium in Different Oxidizing Atmospheres. <i>Materials at High Temperatures</i> , 2000, 17, 231-235.	0.5	53
10	Towards the growth of stoichiometric chromia on pure chromium by the control of temperature and oxygen partial pressure. <i>Corrosion Science</i> , 2017, 126, 238-246.	3.0	51
11	Properties of TiSiN coatings deposited by hybrid HiPIMS and pulsed-DC magnetron co-sputtering. <i>Vacuum</i> , 2014, 109, 43-51.	1.6	50
12	The effect of water vapor on the oxidation behavior of 9%Cr steels in simulated combustion gases. <i>Fresenius' Journal of Analytical Chemistry</i> , 1998, 361, 540-544.	1.5	49
13	Inverse growth transport in thermal chromia scales on Fe-15Cr steels in oxygen and in water vapour and its effect on scale adhesion. <i>Scripta Materialia</i> , 2007, 57, 671-674.	2.6	48
14	Mechanisms of chromia scale failure during the course of 15-18Cr ferritic stainless steel oxidation in water vapour. <i>Materials at High Temperatures</i> , 2005, 22, 105-112.	0.5	48
15	Determination of mechanical adhesion energy of thermal oxide scales on AISI 430Ti alloy using tensile test. <i>Materials Science and Technology</i> , 2007, 23, 497-501.	0.8	41
16	Characterization of Chromia Scales Grown on Pure Chromium in Different Oxidizing Atmospheres. <i>Materials at High Temperatures</i> , 2000, 17, 231-234.	0.5	40
17	Parameters affecting transient oxide formation on FeCrAl based foil and fibre materials. <i>Materials at High Temperatures</i> , 2003, 20, 287-293.	0.5	39
18	High temperature behavior of the metal/oxide interface of ferritic stainless steels. <i>Corrosion Science</i> , 2012, 59, 148-156.	3.0	35

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19	Oxidation Kinetics and Scale Spallation of Iron-Chromium Alloys with Different Titanium Contents. Materials Science Forum, 2004, 461-464, 705-712.	0.3	34
20	Chemical composition and electronic structure of the passive layer formed on stainless steels in a glucose-oxidase solution. Electrochimica Acta, 2008, 54, 123-132.	2.6	34
21	Oxide Growth Characterization During Short-Time Oxidation of a Commercially Available Chromia-Forming Alloy (HR-120) in Air at 1,050°C. Oxidation of Metals, 2013, 80, 25-35.	1.0	33
22	Duplex n- and p-Type Chromia Grown on Pure Chromium: A Photoelectrochemical and Microscopic Study. Oxidation of Metals, 2016, 86, 497-509.	1.0	33
23	Oxidation of simulated recycled steels with 0.23 and 1.03 wt.% Si in Ar+20%H ₂ O at 900 °C. Corrosion Science, 2014, 87, 101-110.	3.0	32
24	Corrosion kinetics under high pressure of steam of pure zirconium and zirconium alloys followed by in situ thermogravimetry. Journal of Nuclear Materials, 2012, 426, 148-159.	1.3	31
25	Breakaway oxidation of austenitic stainless steels induced by alloyed sulphur. Corrosion Science, 2015, 93, 100-108.	3.0	31
26	Oxygen and Water Vapour Oxidation of 15Cr Ferritic Stainless Steels with Different Silicon Contents. Materials Science Forum, 2004, 461-464, 839-848.	0.3	30
27	Reduction of chromium volatilisation from stainless steel interconnector of solid oxide electrochemical devices by controlled preoxidation. Corrosion Science, 2016, 106, 172-178.	3.0	30
28	Influence of Hydrogen and Water Vapour on the Kinetics of Chromium Oxide Growth at High Temperature. Oxidation of Metals, 2011, 76, 193-214.	1.0	26
29	Adhesion of Thermal Oxide Scales on Hot-Rolled Conventional and Recycled Steels. Oxidation of Metals, 2013, 79, 325-335.	1.0	26
30	On the Competitive Growth of Alpha and Transient Aluminas During the First Stages of Thermal Oxidation of FeCrAl Alloys at Intermediate Temperatures. Oxidation of Metals, 2008, 70, 331-337.	1.0	25
31	Hydrogen absorption associated with the corrosion mechanism of 316L stainless steels in primary medium of Pressurized Water Reactor (PWR). Corrosion Science, 2014, 85, 251-257.	3.0	25
32	Oxidation Kinetics of AISI 441 Ferritic Stainless Steel at High Temperatures in CO ₂ Atmosphere. Oxidation of Metals, 2014, 81, 315-329.	1.0	25
33	Measuring Adhesion of Cr ₂ O ₃ and Al ₂ O ₃ Scales on Fe-Based Alloys. Materials Science Forum, 2004, 461-464, 631-638.	0.3	24
34	Oxide formation on titanium alloys in primary water of nuclear pressurised water reactor. Corrosion Science, 2019, 150, 32-41.	3.0	24
35	Isothermal oxidation of Inconel 625 superalloy at 800 and 1000°C: Microstructure and oxide layer characterization. Materials Characterization, 2020, 161, 110160.	1.9	23
36	Comparison of damaging behavior of oxide scales grown on austenitic stainless steels using tensile test and cyclic thermogravimetry. Corrosion Science, 2016, 103, 145-156.	3.0	22

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37	The Role of Oxygen Partial Pressure on the Nature of the Oxide Scale on a NiCr Model Alloy. Oxidation of Metals, 2017, 88, 481-493.	1.0	22
38	Mechanisms of chromia scale failure during the course of 15â€“18Cr ferritic stainless steel oxidation in water vapour. Materials at High Temperatures, 2005, 22, 105-112.	0.5	21
39	Metastable alumina formation during oxidation of FeCrAl and its suppression by surface treatments. Materials and Corrosion - Werkstoffe Und Korrosion, 2005, 56, 843-847.	0.8	20
40	Effect of implantation defects on the corrosion of 316L stainless steels in primary medium of pressurized water reactors. Corrosion Science, 2016, 107, 1-8.	3.0	20
41	Possible connection between nodule development and presence of niobium and/or titanium during short time thermal oxidation of AISI 441 stainless steel in wet atmosphere. Materials at High Temperatures, 2015, 32, 22-27.	0.5	19
42	Advanced STEM/EDX investigation on an oxide scale thermally grown on a high-chromium ironâ€“nickel alloy under very low oxygen partial pressure. Corrosion Science, 2015, 101, 193-200.	3.0	19
43	Comparative study and imaging by PhotoElectroChemical techniques of oxide films thermally grown on zirconium and Zircaloy-4. Journal of Nuclear Materials, 2007, 360, 151-158.	1.3	18
44	Water Vapour Effects on the Oxidation of Chromia-Forming Alloys. Materials Science Forum, 0, 696, 200-205.	0.3	18
45	Semiconducting properties of thermal scales grown on a chromia-forming alloy under controlled oxygen partial pressures. Corrosion Science, 2014, 87, 218-223.	3.0	18
46	Interfacial Reactions and Diffusion during the Thermal Oxidation of Titanium in Water Vapour. Materials Science Forum, 1997, 251-254, 113-118.	0.3	17
47	Growth Kinetics and Characterization of Chromia Scales Formed on Niâ€“30Cr Alloy in Impure Argon at 700Â°C. Oxidation of Metals, 2020, 93, 329-353.	1.0	17
48	Photoelectrochemical imaging of metal-scale decohesion on titanium thermally oxidised in oxygen. Corrosion Science, 2008, 50, 1122-1131.	3.0	16
49	Photoelectrochemical Characterisation of Chromia Scales Thermally Grown on Various Metal Substrates. Materials Science Forum, 0, 595-598, 1181-1188.	0.3	16
50	Effect of oxygen partial pressure on the semiconducting properties of thermally grown chromia on pure chromium. Corrosion Science, 2018, 141, 46-52.	3.0	16
51	Photoelectrochemical Study of Oxides Thermally Grown on Titanium in Oxygen or Water Vapor Atmospheres. Journal of the Electrochemical Society, 2007, 154, C587.	1.3	15
52	Study of the Thermal Oxidation of Fe-15 Cr by Combined Raman and Photoelectrochemical Imaging. Materials Science Forum, 2004, 461-464, 681-688.	0.3	14
53	In Situ Oxide Growth Characterization of Mn-Containing Niâ€“25Cr (wt%) Model Alloys at 1050Â°C. Oxidation of Metals, 2018, 89, 781-795.	1.0	14
54	Semiconducting behavior and bandgap energies of oxide films grown on alloy 600 under PWR simulated primary water conditions with different dissolved hydrogen contents. Journal of Nuclear Materials, 2013, 443, 222-229.	1.3	13

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55	Influence of Polishing-Induced Surface Hardening on the Adhesion of Oxide Scales Grown on a Ferritic Stainless Steel. <i>Oxidation of Metals</i> , 2011, 75, 167-181.	1.0	12
56	Optimisation of Metallic Interconnects for Hydrogen Production by High Temperature Water Vapour Electrolysis. <i>Defect and Diffusion Forum</i> , 0, 323-325, 239-244.	0.4	11
57	Initial stages of FeMnSiCrNi shape memory stainless steels oxidation mechanism at 800 Å°C. <i>Corrosion Science</i> , 2021, 181, 109255.	3.0	11
58	Behaviour of ferritic stainless steels subjected to dry biogas atmospheres at high temperatures. <i>Materials and Corrosion - Werkstoffe Und Korrosion</i> , 2011, 62, 616-622.	0.8	10
59	Photoelectrochemistry of Oxidation Layers: A Novel Approach to Analyze Photocurrent Energy Spectra. <i>Oxidation of Metals</i> , 2013, 79, 349-359.	1.0	10
60	High temperature oxidation resistance improvement in an FeMnSiCrNi alloy by Mn-depletion under vacuum annealing. <i>Materials Letters</i> , 2019, 241, 164-167.	1.3	10
61	Shadow corrosion: Experiments and modeling. <i>Journal of Nuclear Materials</i> , 2019, 523, 310-319.	1.3	10
62	Short Term Oxidation of Stainless Steels during Final Annealing. <i>Materials Science Forum</i> , 0, 595-598, 601-610.	0.3	9
63	Photoelectrochemical investigations on individual ferritic and austenitic grains of a duplex stainless steel oxidized in water vapour. <i>Materials at High Temperatures</i> , 2011, 28, 349-354.	0.5	9
64	Detection of Breakaway Oxidation with Acoustic Emission During Zirconium Oxide Scale Growth. <i>Oxidation of Metals</i> , 2013, 79, 279-288.	1.0	9
65	Microstructural void environment characterization by electron imaging in 45nm technology node to link electromigration and copper microstructure. <i>Microelectronic Engineering</i> , 2013, 106, 168-171.	1.1	9
66	Parameters affecting transient oxide formation on FeCrAl based foil and fibre materials. <i>Materials at High Temperatures</i> , 2003, 20, 287-293.	0.5	9
67	Mechanisms of Corosion and Oxidation of Metals and Alloys. <i>Advanced Engineering Materials</i> , 2001, 3, 555.	1.6	8
68	Thermal Oxidation of Metallic Niobium by Water Vapor. <i>Oxidation of Metals</i> , 2001, 55, 153-163.	1.0	8
69	Detection of breakaway oxidation with Acoustic Emission during titanium oxide scale growth. <i>Corrosion Science</i> , 2010, 52, 2365-2371.	3.0	8
70	Corrosion of titanium alloys in pressurised water at 300 Å°C: Kinetics and modelling. <i>Corrosion Science</i> , 2021, 190, 109646.	3.0	8
71	Quantitative Adhesion Energy Values of Chromia-Rich Thermal Oxides on Stainless Steels Determined by Blister and Tensile Tests. <i>Materials Science Forum</i> , 2006, 522-523, 441-450.	0.3	7
72	Microstructure and texture analysis of narrow copper line versus widths and annealing for reliability improvement. <i>Microelectronic Engineering</i> , 2011, 88, 661-665.	1.1	7

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73	Chromia Scale Thermally Grown on Pure Chromium Under Controlled p(O ₂) Atmosphere: II – Spallation Investigation Using Photoelectrochemical Techniques at a Microscale. Oxidation of Metals, 2018, 90, 267-277.	1.0	7
74	Electromigration multistress pattern technique for copper drift velocity and Blackâ€™s parameters extraction. , 2007, , .		6
75	Effect of reservoir on electromigration of short interconnects. , 2010, , .		6
76	Reversible catastrophic oxidation of a 38Feâ€“34Niâ€“25Cr alloy induced by sodium sulphate at low oxygen potential atmospheres. Corrosion Science, 2012, 55, 133-139.	3.0	6
77	Chromia Scale Thermally Grown on Pure Chromium Under Controlled p(O ₂) Atmosphere: I. Spallation Investigation Using Photoelectrochemical Techniques at a Mesoscale. Oxidation of Metals, 2018, 90, 255-266.	1.0	6
78	Morpho-chemical investigations and thermodynamic study of Nb-rich passive nodules grown on AISI 441 oxidized in wet atmosphere. Corrosion Science, 2018, 141, 255-263.	3.0	6
79	Influence of a TiO ₂ surface treatment on the growth and adhesion of alumina scales on FeCrAl alloys. Materials and Corrosion - Werkstoffe Und Korrosion, 2008, 59, 423-428.	0.8	5
80	Use of bidirectional current stress for in depth analysis of electromigration mechanism. , 2008, , .		5
81	Imaging by Photoelectrochemical Techniques of Laves-Phases $\text{Zr}(\text{Fe,Cr})_2$ Thermally Oxidized on Zircaloy-4. Materials Science Forum, 0, 595-598, 571-579.	0.3	5
82	A Possible Mechanism for Protrusions Formation at the Metal/Oxide Interface During Short Time Oxidation of Ferritic Stainless Steel. Oxidation of Metals, 2013, 79, 65-72.	1.0	5
83	Time and temperature dependence of the adhesion of oxide scales formed on phosphorus-containing steels during short term oxidation. Materials Chemistry and Physics, 2014, 148, 1157-1162.	2.0	5
84	About the control of semiconducting properties of chromia: investigation using photoelectrochemistry and orientation mapping in a TEM. Materials at High Temperatures, 2018, 35, 159-167.	0.5	5
85	Microstructural characterization of the protective oxide scale forming on Niâ€“25Crâ€“xMn (x=0.5, 1 and 2) in air at 1073 K. Oxidation of Metals, 2018, 90, 1078-1088.	1.0	5
86	Haematite and chromia dissolution in the zirconia matrix during thermal oxidation of Laves-phases $\text{Zr}(\text{Fe,Cr})_2$ on Zircaloy-4. Materials at High Temperatures, 2009, 26, 9-14.	0.5	4
87	Resistance trace modeling and electromigration immortality criterion based on void growth saturation. , 2010, , .		4
88	Influence of the Oxygen Partial Pressure on the High Temperature Corrosion of 38Niâ€“34Feâ€“25Cr Alloy in Presence of NaCl Deposit. Oxidation of Metals, 2013, 80, 577-588.	1.0	4
89	Multiscale Photoelectrochemical Studies on Oxidized Duplex Stainless Steels. Oxidation of Metals, 2013, 79, 337-347.	1.0	4
90	The Effect of Water Vapor on Thermal Oxide Grown on Inconel 690. Applied Mechanics and Materials, 2014, 670-671, 74-81.	0.2	4

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91	Special Issue on Corrosionâ€“Mechanical Loading Interactions. Oxidation of Metals, 2017, 88, 1-2.	1.0	4
92	Modeling of Trilayered Oxide Thermally Grown on 441 Ferritic Stainless Steel at 900Â° C in Synthetic Air. Oxidation of Metals, 2021, 96, 31-41.	1.0	4
93	Effect of Temperature on the Oxidation Mechanism of Ni-30Cr Alloy. Oxidation of Metals, 2021, 96, 69-80.	1.0	4
94	Photoelectrochemical and Raman imaging studies of chemical and mechanical properties of thermally grown titanium oxide scales. Materials at High Temperatures, 2005, 22, 315-320.	0.5	4
95	Corrosion of titanium alloys in pressurised water at 350Â° C and 17.5Â MPa. Corrosion Science, 2022, 201, 110268.	3.0	4
96	Comments on the Quantification of Mechanical Adhesion Energy of Thermal Oxide Scale on Metallic Substrate Using Tensile Test. Materials Science Forum, 0, 595-598, 907-914.	0.3	3
97	Effects of current density on electromigration resistance trace analysis. , 2011, , .		3
98	Evolution of the metalâ€“oxide interface during the initial stage of the high temperature oxidation of ferritic stainless steels. Materials at High Temperatures, 2011, 28, 274-278.	0.5	3
99	Improved statistical analysis at low failure rates in Cu electromigration using an innovative multilink test structure. , 2012, , .		3
100	Microstructure local effect for electromigration reliability improvement and Cu damascene lines design rules relaxation. , 2013, , .		3
101	Electromigration: Multiphysics model and experimental calibration. , 2016, , .		3
102	Advanced Microstructural Investigations of AISI 441 Early Stage Oxidation in Wet Atmosphere. Key Engineering Materials, 0, 728, 3-8.	0.4	3
103	The Yttrium Effect on Nanoscale Structure, Mechanical Properties, and High-Temperature Oxidation Resistance of (Ti0.6Al0.4)1â€“x Y x N Multilayer Coatings. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 4097-4110.	1.1	3
104	About the Synergetic Influence of Manganese and Silicon on the Oxidation Rate of Chromia Forming Nickel-Based Model Alloys at 1050Â° C. Oxidation of Metals, 2020, 94, 235-249.	1.0	3
105	FeMnSiCrNi Oxidation at 800Â° C: Mechanism and Characterization of Improved Oxidation Resistance Generated by Vacuum Annealing Treatment. Oxidation of Metals, 2021, 96, 17-29.	1.0	3
106	Residual resistivity model and its application. Integrated Reliability Workshop Final Report, 2009 IRW '09 IEEE International, 2006, , .	0.0	2
107	CU interconnect immortality criterion based on electromigration void growth saturation. , 2009, , .		2
108	Microstructure and texture analysis of advanced copper using electron backscattered diffraction and scanning transmission electron microscopy. Proceedings of SPIE, 2010, , .	0.8	2

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109	Electron Backscattered Diffraction Analysis Of Narrow Copper Interconnects In Cross-View To Investigate Scale Effect On Microstructure.. , 2010, , .		2
110	Grain boundary as relevant microstructure feature for electromigration in advanced technology studied by Electron BackScattered Diffraction. , 2011, , .		2
111	Sol-gel titania films on YHfAl foils and their influence on inhibition of transition aluminas during oxidation at high temperatures. Applied Surface Science, 2011, 257, 3929-3935.	3.1	2
112	Study of Electroless Nickel Coatings on EN-GJS-500-7 Spheroidal Graphite Cast Iron. Coatings, 2018, 8, 239.	1.2	2
113	A DFT study of defects in paramagnetic Cr ₂ O ₃ . Physical Chemistry Chemical Physics, 2022, 24, 10488-10498.	1.3	2
114	Relevance of electromigration wafer level test for advanced CMOS interconnects reliability control. , 2011, , .		1
115	Effect of Humidity on the Corrosion Kinetics of Ferritic Stainless Steels Subjected to Synthetic Biogas. Materials Science Forum, 0, 696, 417-422.	0.3	1
116	Water Vapor Effects in High Temperature Oxidation. Oxidation of Metals, 2013, 79, 443-444.	1.0	1
117	Investigation on the multi-voids formation during electromigration degradation in dual damascene Cu lines. Microelectronic Engineering, 2013, 112, 130-132.	1.1	1
118	Effectiveness of wafer level test for electromigration wear out reporting in advanced CMOS interconnects reliability assessment. Microelectronic Engineering, 2013, 106, 195-199.	1.1	1
119	Study of void formation in Cu interconnects using local sense and standard singlevia structure. , 2014, , .		1
120	Study of EM void nucleation and mechanic relaxation effects. Microelectronics Reliability, 2014, 54, 1692-1696.	0.9	1
121	Interconnect design study for electromigration reliability improvement. , 2015, , .		1
122	Influence of irradiation on stainless steel corrosion in PWR primary conditions. EPJ Web of Conferences, 2016, 115, 04006.	0.1	1
123	Relations Between Oxidation Induced Microstructure and Mechanical Durability of Oxide Scales. Oxidation of Metals, 2017, 88, 29-40.	1.0	1
124	Spallation study of chromia scales thermally grown on pure chromium in synthetic air. Materials Characterization, 2019, 152, 58-66.	1.9	1
125	Should Gold Marker or TEM-ASTAR Characterization Be Used to Determine Oxide Growth Direction?. Oxidation of Metals, 2021, 96, 201-211.	1.0	1
126	Étude cinétique de l'oxydation thermique du tantale dans des atmosphères mixtes oxygène - vapeur d'eau. Journal De Chimie Physique Et De Physico-Chimie Biologique, 1995, 92, 1142-1153.	0.2	1

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127	Isothermal short-term oxidation behavior of MAR-M246 nickel-based superalloy at 800°C and 1000°C. Materials and Corrosion - Werkstoffe Und Korrosion, 0, , .	0.8	1
128	Photoelectrochemical and Raman imaging studies of chemical and mechanical properties of thermally grown titanium oxide scales. Materials at High Temperatures, 2005, 22, 315-320.	0.5	0
129	Characterization of Electromigration Parameters on Single Device. , 2007, , .		0
130	Advanced Characterization Techniques in High-Temperature Oxidation and Corrosion Studies. Oxidation of Metals, 2013, 79, 225-226.	1.0	0
131	Special Issue on Advances in Relevant Characterization Techniques. Oxidation of Metals, 2017, 88, 421-422.	1.0	0
132	Corrosion in Pressurized Water. , 2018, , 155-163.		0
133	Editorial on this Focus Issue on Key Corrosion Topics. Oxidation of Metals, 2021, 96, 1-2.	1.0	0
134	Focus Issue on Unique Materials, Techniques, and Environments. Oxidation of Metals, 2021, 96, 183-184.	1.0	0
135	Photoelectrochemical imaging of thermally grown oxide scales. , 2007, , 172-177.		0
136	Effect of Dissolved Hydrogen, Surface Conditions and Composition on the Electronic Properties of the Oxide Films Formed on Nickel-Base Alloys in PWR Primary Water. , 2011, , 953-966.		0
137	Recherche du mécanisme d'oxydation d'un alliage Ni-Cr par la vapeur d'eau. Materiaux Et Techniques, 2011, 99, 111-115.	0.3	0